COUNTY OF YORK
MEMORANDUM

DATE: August 4, 2003 (BOS Mtg. 8/19/03)

TO: York County Board of Supervisors

FROM: James O. McReynolds, County Administrator

SUBJECT: Emergency Communications System Upgrade

As directed by the Board, County staff has been working with staff from James City County and Frederick G. Griffin, P.C., a communications system consultant, to develop a regional emergency communications system that meets both public safety and public service needs. The attached resolution provides for the approval of this purchase by the Board of Supervisors in accordance with its policy for procurements of over $30,000. The Board's approval is requested for procurement of the communication system improvements.

Concise and reliable communications are critical to our effort to assemble and respond proper resources to emergencies in the community and to effectively coordinate those resources at emergency scenes. In the Counties of York and James City, these essential public safety, as well as public service, communications have been provided with multiple communications systems and components of differing origins, technologies, and capabilities. While these aging systems, more than two decades old, provided adequate service in their time, with the passage of time they have become increasingly unreliable, inadequate, and incapable of meeting these jurisdictions' current or future emergency and essential non-emergency communications needs.

The current radio systems in use by the two jurisdictions utilize conventional analog technology more than 20 years old. This technology was found to be the root cause of several critical shortcomings of the systems in use, particularly those of the Fire/Rescue and law enforcement radio systems, as follows:

- The lack of interoperability, defined as the ability of public safety and public service agencies to communicate by radio with staff from other agencies on demand and in real time, was found to be especially problematic. The current communications systems do not allow Fire/Rescue and law enforcement agencies to communicate with each other during day-to-day delivery of services, much less during Mutual Aid or large multi-jurisdictional emergency operations. The same problem also exists between public safety agencies and public service staff.

- Inadequate radio coverage by the current radio systems results in unreliable radio communications and creates safety issues for Fire/Rescue and law enforcement personnel. The current system is unable to provide what has become the public safety industry standard for emergency services radio coverage (95 percent reliable for persons using the system in the street or in a building).

- Equipment was found to be in use beyond its normal life expectancy. Equipment manufacturers typically provide parts for only seven years after the communication equipment goes out of production for mobile and portable radios, and only ten years after the equipment goes out of production for "back-bone infrastructure" components such as towers, antennas, repeaters, base stations, and console equipment. However, 60 percent of the current infrastructure in York County exceeds 15 years in age, and 40 percent exceeds 20 years in age.

- Increasing downtime for the "backbone infrastructure" is directly related to the unavailability of parts, and the frequent reliance on used parts for repairs. The manufacturers have notified the users that parts are no longer available for most of the "backbone infrastructure" equipment and systems.

- The current systems do not have sufficient channels for complex or multiple operations. Each of the jurisdiction's public safety agencies operates on a single channel, resulting in frequent channel congestion during daily operations.

- The schools for York County operate on a single low-band channel with over a hundred units competing for the use of the same frequency.

- Radio interference was found throughout the communications systems in current use. Much of the problem, called "co-channel interference," is caused by the need for users to share radio frequencies in the bandwidths currently in use by public safety agencies. The lack of sufficient channels in these frequency bands has been the primary impetus for public safety agencies in the region to move to the 800 MHz frequency bands where there is less interference.

- The Federal Communications Commission's current program to create new frequencies within existing allocated channels, known as "frequency refarming," will further exacerbate the co-channel interference problem currently existing for the public safety agencies of both jurisdictions.

- York County's CAD (computer aided dispatch) system was installed in 1987. Although parts were updated in 1992, the company has since been sold, creating continuous hardware/software challenges.

As both jurisdictions began to address the need to upgrade their communications systems, considerations of interoperability, geography, and cost sharing made it apparent that a regional approach would better serve each locality. On February 5, 2002, the Board approved a contract with Frederick G. Griffin, P.C., to study the public safety and public services communications systems needs and make recommendations for a new multi-agency/multi-jurisdiction communications system. This study recommended that the Counties combine to design, acquire, and implement a regional 800MHz public safety/public service trunked radio system that will allow for both regional and analog operation.

In response to the study, a Policy Team was assembled consisting of myself, James City County Administrator Sanford Wanner, York County and Poquoson Sheriff J. D. "Danny" Diggs, James City Police Chief David Daignailt, York County Fire Chief Stephen Kopczynski, James City County Fire Chief Richard Miller (James City County's Project Manager), T. W. Sawyer, York County Purchasing Agent, Stephanie Ahrenbt, James City County Purchasing Agent, and York County Communications Manager D. Terry Hall (York County's Project Manager) to oversee the procurement process for the system. In addition to the Policy Team, an Evaluation Team made up of two five-member groups from each of the Counties were selected to evaluate the findings of the study and select the consultant used in the system design and procurement process.

A two-step competitive negotiation process was chosen for the joint radio project. The first step was a pre-qualification of vendors. An invitation to prospective vendors was advertised on August 13, 2002. Respondents were asked to provide evidence of financial solvency, demonstrate five to seven completed systems of similar design and size to the system to be considered, identify the product line(s) to be considered, declare whether their proposal would be original equipment manufacturer (OEM) or non-OEM, document appropriate bonding and insurance, and complete an application to meet Virginia procurement laws. Four vendors responded, and two, Motorola and M/A Com, were deemed to be qualified and were chosen for the receipt of the Request for Proposal (RFP).

The two qualified vendors then provided the project Evaluation Team with presentations outlining their solutions in three major focus areas: 1) service, 2) coverage, and 3) interoperability. The Evaluation Team ranked the two offerors and decided to proceed with the RFP.

The project managers and purchasing agents then requested that the consultant prepare a draft document to be used in the development of a RFP. The consultant was instructed to address the same three major focus areas in the document that the vendors addressed in their presentations: 1) service, 2) coverage, and 3) interoperability. As a result the consultant produced a 47-page document that included detailed specifications of the equipment to be provided, but not, however, a description of the performance standards the system would have to meet. Ultimately, as is explained below, that approach was modified so that the procurement process could emphasize the required performance standards, and the proposed contract before you reflects the goal of designing a system that will guarantee compliance with identified performance standards with development of a comprehensive protocol for testing the system for compliance with those standards.

One of the major reasons for using the RFP process was to allow the vendors to develop a system which meets the communications needs of the two jurisdictions. Localities that have procured their communications systems by first designing detailed equipment specifications and then utilizing an Invitation for Bids to employ a vendor to install the system have found that systems failures have been very costly and difficult to address because the vendors had no responsibility for systems design or performance. The committee determined that the best way to address systems performance was to allow the vendors to

propose systems which would perform to the specified standard (95% coverage 95% of the time) and to build in specific testing protocols to verify that the standards have been met. This way, the vendor will be required to provide a system that meets the required performance standards for the agreed upon price. With the foregoing in mind, a second draft RFP was prepared, emphasizing performance standards rather than equipment specifications. Staff felt that the second draft would result in a document that would produce a better response from the competing vendors. The second draft was then forwarded to the York and James City County Attorneys for comment.

With the comments from the County Attorneys, a final draft was prepared. This final draft was then reviewed and approved by both project managers, both County Purchasing Agents, both County Attorneys, and the consultant.

In accordance with the Virginia Public Procurement Act, the Request for Proposal was issued on January 14, 2003, with the time and date set for the receipt of proposals at 5:00 p.m. on January 31, 2003. Motorola was the only pre-qualified vendor that submitted a proposal.

The radio project leadership team began negotiations with Motorola which resulted in a reduction of over $3 million in anticipated antenna site development costs, the development of a statement of work (SOW) which contains detailed system performance standards (Motorola will be required to provide a final systems design as the first phase of the contract), final contract documents, and acceptance test procedures that will be used to demonstrate that the completed system meets the conditions of the Request for Proposal. The test procedures are subject to modification once the final system design has been approved, and the first contract payment will not be due until the design is complete and approved by both jurisdictions.

The contract of Work will require Motorola to provide an 800MHz/700MHz digital radio communications system that will provide both York and James City Counties with the highest level of direct interoperability available in the industry today. The system as proposed will be a single integrated simulcast system consisting of 20 channels and 9 communications sites. The communication sites will be linked together by a state-of-the art looped microwave network. The system will be easily expandable so that additional channels and equipment can be added on in the future as both local and regional needs change and will operate in both the 800MHz and 700MHz spectrums. Digital mobiles and portables will be used on this system. The digital solution incorporates microprocessor technology as well as advanced digital technologies to provide the counties with consistently clear audio quality, functionality, and flexibility. It will allow for interoperability within the region today and for the foreseeable future.

Every step of the James City County and York County Radio Communications procurement process has been conducted with the full participation of both County Project Managers, both County Purchasing Agents, both County Attorneys, and the consultant, who is retained by contract for this project. The product of this high level of professional work will ensure the best use of the financial resources provided for this project. Procurement

as a joint project by the two localities is estimated to have saved an additional $2.5 million over what the project would have cost had they been procured separately. York County will act as Fiscal Agent for the overall project.

In order to ensure that our communications system is competitively priced, the team compared the negotiated prices for the system components with those of similar systems recently installed in other jurisdictions across the nation. In each case it was found that our negotiated prices are as good as or better than those received by other jurisdictions.

York County's portion of the proposed contract with Motorla is approximately $9 million; the portion of the building addition necessary for the new communications equipment is $800,000; and it is proposed that there be a contingency amount of $200,000, all totaling $10 million. I am extremely pleased that staff has been able to keep this project within the limits of the budget established nearly three years ago.

This procurement has been conducted in accordance with State procurement laws and/or County procurement policy, and I recommend adoption of proposed Resolution R03-137 to authorize the County Administrator to finalize the procurement arrangements for the Emergency Communications System Upgrade Project.

Sawyer/3681
Attachment
- Proposed Resolution R03-137